

### **IN THE SPECIFICATION AMEND**

Please delete the second full paragraph on Page 9 of the specification, and insert instead:

- - Referring now to Figure 5a and 5b, a microelectrode system according to the invention is designated generally by the reference numeral 70 with parts equivalent to those shown in Figure 1b given equivalent reference numerals. The microelectrode system 70 comprises a specialized layer 13 between two electrode layers 3. The system further comprises means ~~14~~ to produce physical or chemical gradients or potentials to the specialized layer 13, such as conventional terminals 14. The specialized layer 13 may be in the form of an ion exchange resin, gel or solid electrolyte. In such a system 70 mass transport from one lateral region of the structure to another may be effected by, for example, osmosis, electro-osmosis, electrophoresis, electrochromatography, ion migration, etc. Reverse flow and counter current techniques may be employed to effect changes in process flows including *inter alia* deionization. - -